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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,605	12/05/2001	Wayne Smith	50277-1755	3517

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EXAMINER

NGUYEN, MERILYN P

ART UNIT	PAPER NUMBER
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2171

DATE MAILED: 03/25/2004

3

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No

10/006,605

Applicant(s)

SMITH ET AL.

Examiner

Merilyn P Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Detailed Action.

***DETAILED ACTION***

1. Claims 1-14 are pending in this office action.
2. This application claims priority to Provisional Application No. 60/326,275 filed on September 28, 2001.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 1-14 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, there is insufficient antecedent basis for “said database management system” in the claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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4. Claims 1-5 and 10-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Colby (US 6,480,836).

Regarding claim 1, Colby discloses a method for managing materialized views (See Fig. 3), the method comprising the steps of:

- a database system receiving a request to generate a materialized view that contains objects of an object class (See col. 5, line 50 to col. 6, line 8, wherein “precomputed view” corresponds to “materialized view”);
- in response to receiving said request, said database management system creating said materialized view (See col. 12, lines 13-24); and
- said database management system performing operations on said objects as instances of said object class (See col. 12, line 25 to col. 13, line 58).

Regarding claim 2, Colby discloses wherein the step of creating said materialized view includes the step of creating an object materialized view, wherein said object materialized view is associated with an object class and contains instances of said object class that correspond to rows of said object materialized view (See col. 6, lines 24-48).

Regarding claim 3, Colby discloses wherein the step of creating said materialized view includes creating an object-relational view that includes at least one object column (See col. 12, lines 24-41).

Regarding claim 4, Colby discloses wherein the method further includes the step of receiving another request from a user requesting performance of said operations on said objects as instances of said object class (See col. 11, lines 42-64).

Regarding claim 5, Colby discloses wherein the step of said database management system performing operations includes performing an operation on said objects by invoking a routine associated with said object class (See col. 7, lines 53-61).

Regarding claim 10, Colby discloses wherein said materialized view includes an object column that has a plurality of nested tables that contain nested table objects (See col. 12, lines 29-55).

Regarding claim 11, Colby discloses wherein the step of creating said materialized view includes the steps of: creating a container table for said materialized view (See col. 12, lines 56-61); and creating another table that holds attributes of nested table objects of said plurality of nested tables (See col. 12, lines 15-17).

Regarding claim 12, Colby discloses said materialized view is associated with one or more base tables; a base table of said one or more base tables includes a base column typed as an object reference; and wherein the step of creating said materialized view includes creating a particular column that: corresponds to said base column, and is typed as an object reference (See col. 12, lines 18-47).

Regarding claim 13, Colby discloses a first scope of said base column is a first set of tables; and the particular column has a second scope that is different than said first scope (See col. 12, lines 18-47).

Regarding claim 14, Colby discloses wherein the second scope is another materialized view based on said first set of tables (See col. 20, lines 13-24).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colby (US 6,480,836), in view of Lieuwen (US 6,272,502).

Regarding claims 6-8, Colby discloses all the claimed subject matter as set forth above except for specifically teaching the step of generating refresh code that refreshes said materialized view based on modifications to one or more base tables of the materialized views. On the other hand Lieuwen teaches generating refresh code that refreshes the materialized views based on modifications to one or more base tables (See abstract, and Fig. 3B, and col. 3, line 61 to col. 4, line 14, Lieuwen et al.). It would have been obvious to one having ordinary skill in the art

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at the time the invention was made to incorporate the method of refreshing materialized views of Lieuwen into the system of Colby so that the materialized view could be refresh every time the database have been modified. The motivation would have been to enable the Colby system to include up to date view, thus providing accurate results.

Regarding claim 9, discloses wherein said materialized view includes an object column associated with said object class, the object class is associated with attributes (See col. 12, lines 25-55, Colby et al.); the step of creating said materialized view includes creating a container table that includes corresponding columns that correspond to said attributes and that hold values for said attributes (See col. 12, lines 56-61, Colby et al.); and the step of generating refresh code includes the step of generating refresh code that references said corresponding columns but not as said attributes of said object class (See col. 3, line 61 to col. 4, line 14, Lieuwen et al.).

### *Conclusion*

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cochrane U.S Patent No. 6,496,828 discloses support for summary tables in a heterogeneous database environment.

Mumick U.S Patent No. 6,484,159 discloses method and system for incremental database maintenance.

Ross U.S Patent No. 6,026,390 discloses cost-based maintenace of materialized views.

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Beyer U.S Patent No. 6,546,402 discloses system and method for asynchronous view maintenance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Merilyn P Nguyen whose telephone number is 703-305-5177. The examiner can normally be reached on M-F: 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 703-308-1436. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-746-7240 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

*MN*

MN

March 19, 2004

*S. Metjahic*  
SAFET METJAHIC  
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